

Heat Geek Mini Store

Turn Your Heat Pump Into A Combi!



An Aquinox Stainless approved product, manufactured by

NEWARK
CYLINDERS

AQUINOX
STAINLESS

Designed by

Heat  Geek

Mini Store v1.4 - Nov 2025 | 1

1. Cover page
2. Table of contents
3. Introduction to the Mini Store
4. Product Support & Guarantee
5. General Installation Guidance
6. Diagrams - Connection sizes and functions
7. Diagrams - Orientation options
8. Diagrams - Mounting Options
9. How to Size & Specify
10. General Specification
11. Models
12. Performance Data
21. How to Fine Tune
22. What's new in this version?

23. How To Order

Introducing The Mini Store |

Renewable sources of energy need somewhere to store hot water, as they don't have the extreme power density of gas and, therefore, have to heat the water more slowly. The problem though, is that 22 million homes in the UK either don't have a hot water storage cylinder, or don't have the space available to site one, resulting in homeowners struggling to decarbonise their heating.

To solve this problem, bespoke hot water cylinder manufacturer, **Newark Cylinders**, have launched the **Heat Geek Mini Store** - a range of super-compact, highly efficient, **Shell & Tube Heat Exchangers**, designed by leading heating experts, **Heat Geek**.

At around a quarter to a third of the size of conventional hot water cylinders, the Mini Store range offers installers and homeowners a highly viable back up option for decarbonising homes, in instances where the market leading **HG Series/Super Cylinders** (or any other cylinder on the market) simply won't fit.

Mini Stores also make gas boilers the most efficient they can possibly be on hot water, but if you can afford to decarbonise your heating system by swapping your boiler for a heat pump, the introduction of the Mini Stores means that there is now no good reason not to.

Mini Store Benefits:

1. Operating with flow temperatures as low as 40-45°C, they are ideal for use with Heat Pumps.
2. Very high hot water flow rates can be achieved (compared to a standard combination boiler), allowing up to **three** showers to be run simultaneously.
3. Their recharge times are unmatched by any standardised hot water storage solution currently available.
4. They are so compact that they'll fit into almost any property - in kitchen cupboards, small airing cupboards, under-stairs cupboards, low roof spaces, or anywhere that you have a small amount of spare room. They can even be laid horizontally, and/or wall-mounted for extra versatility.

The choice of installer is very important for setting up your Mini Store optimally. Heat Geek installers have the fundamental knowledge required to tune the control parameters and accompany the cylinder with the most efficient heating system design. Please refer to the [Heat Geek installer map](#) to find and contact your local installers.

In conclusion, the Mini Stores offer installers and homeowners a highly viable back up option for decarbonising homes, in cases where installing a **Heat Geek Super Cylinder** just isn't possible.

This document provides full specifications for the Mini Stores, including diagrams, general specifications (the features which are consistent across all models), model specifications (the features which vary), and describes the various orientation and mounting options that are available.

All Sales and after-sales product support, is handled by Newark Cylinders. Their contact information can be found on the final page of this document.

All sales and after-sales product support, is handled by **Newark Cylinders**. Their contact information can be found on the final page of this document.

Manufacturer's Guarantee

All **Mini Stores** are guaranteed by Newark Cylinders for 7 years against manufacturing defects, provided they have been used and maintained in full accordance with the guidance provided in this document. This guarantee does not cover against corrosion, stress fatigue, accidental damage, or any other reason for failure which is out of Newark Cylinders' control.

For more details regarding our Guarantees, standard practices, and returns procedure, please visit

https://newarkcylinders.co.uk/refund_returns/

Installation, Performance, & System Design Support

For any installation, performance, or system design-related queries, please consult a or **Heat Geek Elite/ Verified Installer**, all of whom can be found at <https://www.heatgeek.com>

General Installation Guidance |

1. Maximum Secondary Working Pressure

The incoming mains pressure (through the coil) should not exceed 4.0 bar. It is recommended that the supplied pressure reducing valve be fitted on the incoming cold mains, to ensure the pressure within the coil stays below this level.

2. Specification Guidance:

It is recommended that you opt for the largest Mini Store that will fit into the available space as, the larger the store volume, the lower the required store temperature and therefore, the more efficiently it will operate. Other variables to be aware of are your bath and shower flow rates. The higher these are, the higher the store temperature will need to be. We, therefore, suggest fitting flow limiters/ aerators to all of these outlets. For a fully assured specification, please use a Verified or Elite Heat Geek Installer.

3. Refrigerants

We suggest that only higher-temperature refrigerants be used with Mini Stores, such as R290 and R32. If not, this may struggle with lower power-output heat pumps (<7kW).

4. Water Quality

We strongly recommend following VDI 2035 guidance on water quality to ensure longevity.

5. Orientation Options

Mini Stores can be installed in vertical or horizontal orientations, as shown on page 7. In horizontal installations, the flow and return from the heat source should be piped as vertically as possible.

6. Mounting Options

Where possible, Mini Stores are intended to be floor standing and vertically oriented. Wherever necessary though, they can be mounted in any of the alternative ways shown on page 8, using the universal Mini Store Support Brackets. The brackets have a suggested torque setting of 25Nm and are available as optional extras - see price list for details.

7. Venting & Draining Options

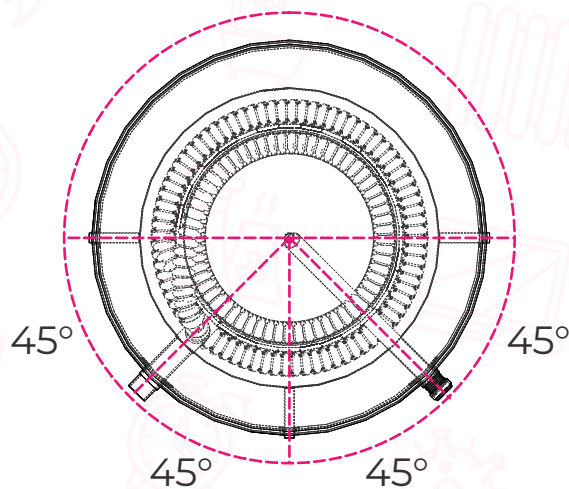
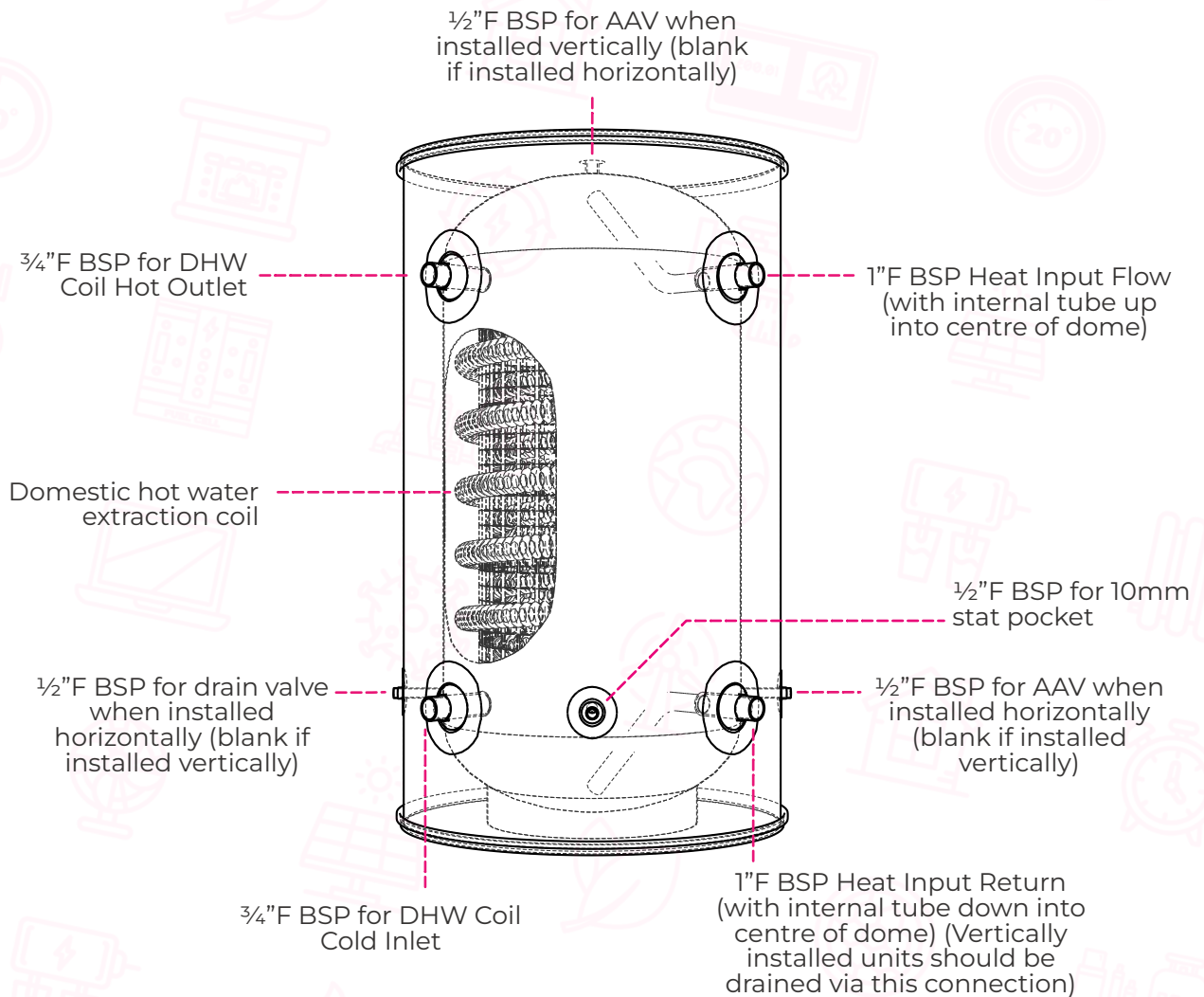
All Mini Stores have three open ½" F BSP connections - one in the top and two in the body. These connections give the installer options for venting and draining points. Which ones are selected as the vent & drain points depends on the unit's orientation. 1x air-bleed valve and 2x Allen plugs are supplied for these connections, but in some cases, you may want to swap one of the plugs for a drain valve. Vertical units should be drained via the "heat source return" connection. See pages 6 & 7 for further details.

8. Insulation

All Mini Stores have 50mm insulation. We recommend insulating all adjoining pipework and sealing all joints, to a minimum of 1.0m from the Mini Store.

9. Expansion Within The DHW Coil

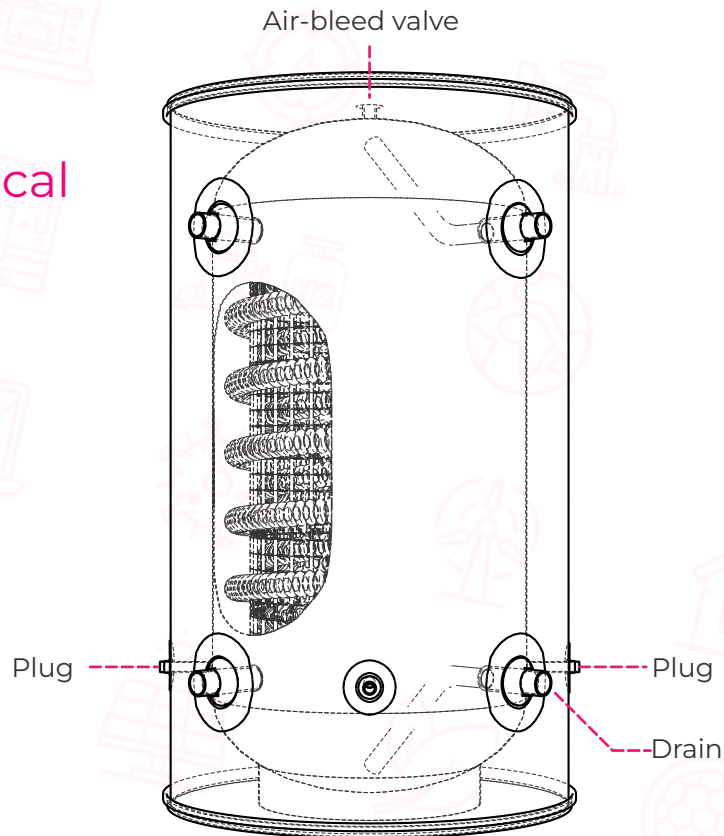
As long as there is at least 2 metres of 15mm or 1 metre of 22mm cold pipework before the coil's cold inlet connection (and no check valve within that 2m), then there will be sufficient volume for the heated water to expand back into it. If there is less than 2m of pipework before the DHW coil's inlet connection, then excessive pressure can build up, potentially damaging the Mini Store. In this case, a 2 Litre expansion vessel should be fitted on a non-isolatable section of the DHW pipework.



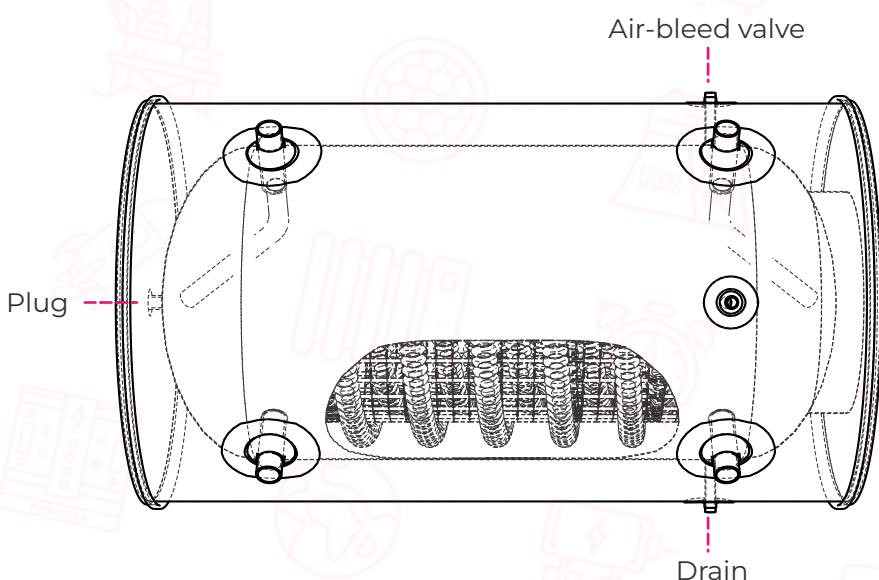
Orientation Options

Mini Stores can be installed in any of the vertical or horizontal orientations below, with their air-bleed valves, plugs, and drain points positioned as shown:

Vertical



Horizontal



Note; The optimal horizontal orientation is with the heat source flow & return connections pointing vertically upwards.

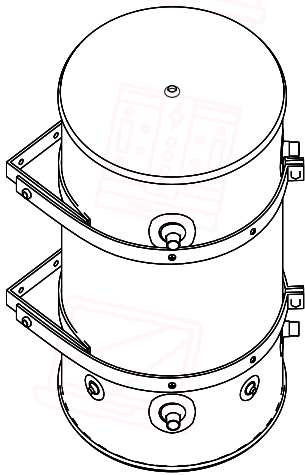
Other orientations are acceptable, but the heat source connections **must** be kept within the top half of the Mini Store.

Attention should be paid to where the drain connection ends up, to ensure it is accessible.

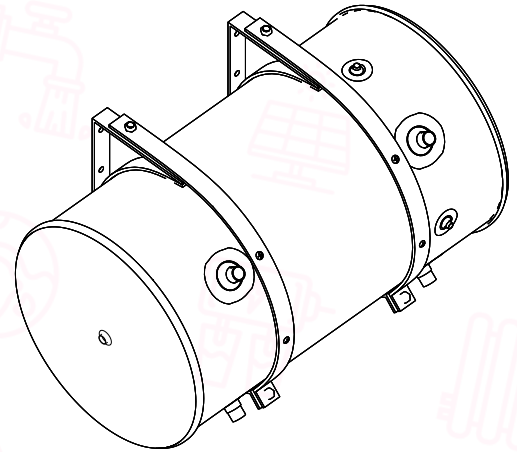
Diagrams |

Mounting Options

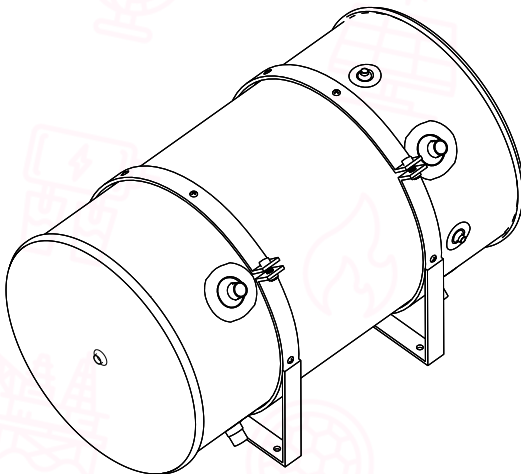
Where possible, **Mini Stores** are intended to be floor standing and vertically oriented. Wherever necessary though, they can be mounted in any of the alternative ways shown below, using the universal **Mini Store Support Brackets** (provided the wall is suitable for carrying the full weight of the unit - see page 11 for the full weights):



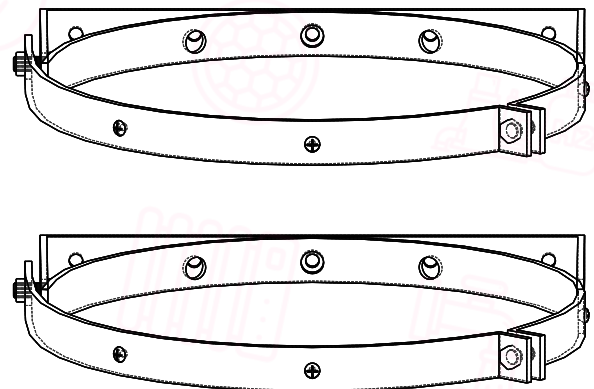
Wall mounted, vertically



Wall mounted, horizontally



Floor standing, horizontally



Support Brackets

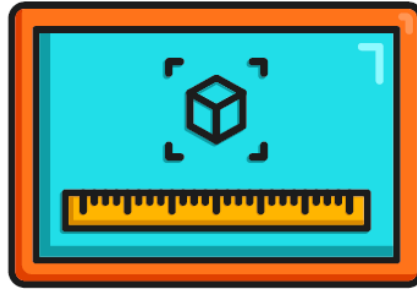
Brackets have a suggested torque setting of 25Nm. Holes are provided for the addition of self-tappers though, in case the installer feels they are needed. A pair of brackets has a net weight of approx. 8kg.

Sets of brackets are available as optional extras - see price list for details

How to Size & Specify |

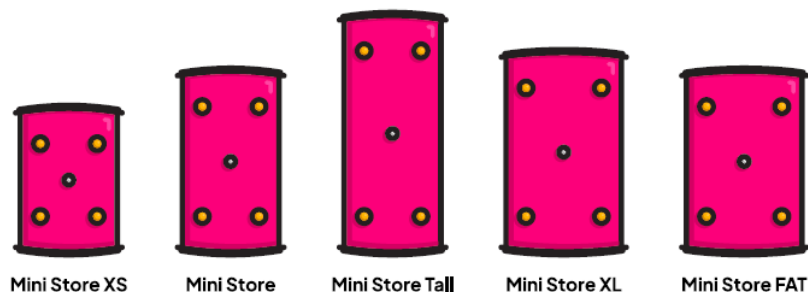
Step 1

Measure your available space and measure each shower's flow rate or assume a flow saving shower head to be fitted.



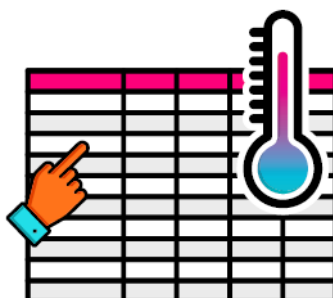
Step 2

Select the LARGEST Store that will fit into the available space. Fitting the largest one possible will mean much higher efficiency will be able to be achieved.



Step 3

Choose the lowest store temperature from our suggested performance tables and fine tune based on feedback for best results between efficiency and performance. Install flow saving shower heads to lower store temperature



General Specification |

Features which are consistent across all Models

Product Type:	Shell and Tube Heat Exchanger
Pressurisation Description:	Pressurised
Manufacturing Material:	1.0mm Duplex Stainless Steel
Orientation & Mounting:	Vertical & floor-standing as standard. Can also be used horizontally, or wall-mounted vertically, with the use of additional support brackets or cradles. See pages 7 & 8 for specific information.
Recommended Shell Set Pressure:	1.5 Bar
Shell Maximum Working Pressure:	6.0 Bar
Shell Test Pressure:	9.0 Bar
Heat Exchanger/ Coil Max. Working Pressure:	4.0 Bar
Heat Exchanger/ Coil Tube & Connection Size:	DN20 with ¾" F BSP connections
HP Probe Pockets:	1 x ½" F BSP with fitted 10mm pocket
Heat Input Flow:	1" F BSP (with internal tube up into dome)
Heat Input Return:	1" F BSP (with internal tube down into dome)
Vent & Drain Valve Connections:	3x ½" F BSP (Positioned to give options. Correct vent and drain positions should be determined based on how the unit is oriented - see pages 6 & 7 for guidance)
Immersion Heater Boss(es):	None in this version - We plan to offer one as an optional upgrade in V2.0
Connection Positions:	As per diagrams on page 6
Insulation thickness:	50mm - We recommend insulating all adjoining pipework and sealing all joints, up to a minimum of 1.0m from the Mini Store
Nominal Overall Dimensions:	Variable - See Model spec's on page 10
Standing Heat Loss:	Variable - See Model spec's on page 10
A-G ERP Heat Loss Rating:	C or above
Finish:	RAL 4010 Pink Case with black lids
Components Included:	1x 22mm Pressure reducing valve (3 bar preset but adjustable up to 4 bar) 1x 10mm stat pocket (fitted) 1x ½" Bleed valve (for vent connection) 2x ½" Allen plugs (to plug unused vent/drain connections)
Label Position:	Supplied Loose

Mini Store XS - As per General Spec. on page 9, plus:

Volume:	60L
Shell Dimensions (exc both ringstands):	595x375mm
Nominal Overall Dimensions:	635x475mm
Weight (empty)	24kg (+9kg if brackets are used)
Weight (full)	84kg (+9kg if brackets are used)
Standing Heat Loss:	0.96 kWh/24h

Mini Store - As per General Spec. on page 9, plus:

Volume:	80L
Shell Dimensions (exc both ringstands):	790x375mm
Nominal Overall Dimensions:	830x475mm
Weight (empty)	31kg (+9kg if brackets are used)
Weight (full)	111kg (+9kg if brackets are used)
Standing Heat Loss:	1.08 kWh/24h

Mini Store FAT - As per General Spec. on page 9, plus:

Volume:	110L
Shell Dimensions (exc both ringstands):	790x450mm
Nominal Overall Dimensions:	830x550mm
Weight (empty)	35kg (+9kg if brackets are used)
Weight (full)	145kg (+9kg if brackets are used)
Standing Heat Loss:	1.27 kWh/24h

Mini Store Tall - As per General Spec. on page 9, plus:

Volume:	110L
Shell Dimensions (exc both ringstands):	1060x375mm
Nominal Overall Dimensions:	1100x475mm
Weight (empty)	39kg (+9kg if brackets are used)
Weight (full)	149kg (+9kg if brackets are used)
Standing Heat Loss:	1.27 kWh/24h

Mini Store XL - As per General Spec. on page 9, plus:

Volume:	130L
Shell Dimensions (exc both ringstands):	960x450mm
Nominal Overall Dimensions:	1000x550mm
Weight (empty)	42kg (+9kg if brackets are used)
Weight (full)	172kg (+9kg if brackets are used)
Standing Heat Loss:	1.40 kWh/24h

Performance Data |

The tables below show the number of minutes the user will receive of continual flow at the indicated flow rate. The colour codes indicate the approximate size of cylinder and what store temperature should be selected, relative to the heat pump size and the incoming flow temperature. Note that fitting flow restrictors at the outlets dramatically lowers the required store temperature and increases efficiency. See the cylinder recharge tables on page 20 for recharge times.

Heat delivery time is based on Vailant aroTherm plus, 3°C hysteresis, with 10m 28mm primary run in spring. Winter will have quicker delivery of heat.

Rule of thumb - Add 2-6°C to store temp for bath use.

Please note that if a variation of the standard MS design is ordered, the performance may vary from what's stated.

Hot water duration at 5 L/m 13°C Inlet Temperature

Assumes 40°C shower, 13°C inlet temperature, 2.5 min heat delivery time		Second shower @ 5L/m			Single shower 1-3 users	
					Single shower 3+ users	
					Two showers 2-3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
Mini Store XS - 60 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	6.5	8.5	16.5	3 hr+	3 hr+	3 hr+
55°C	10	14.5	31.5	3 hr+	3 hr+	3 hr+
60°C	14	20.5	46	3 hr+	3 hr+	3 hr+
65°C	18	27	61	3 hr+	3 hr+	3 hr+
70°C	22	33	75.5	3 hr+	3 hr+	3 hr+
Mini Store - 80 L	Run time (minutes)					
45°C	-	5	8	3 hr+	3 hr+	3 hr+
50°C	9	13	27.5	3 hr+	3 hr+	3 hr+
55°C	14.5	21	47	3 hr+	3 hr+	3 hr+
60°C	19.5	29.5	67	3 hr+	3 hr+	3 hr+
65°C	24.5	37.5	86.5	3 hr+	3 hr+	3 hr+
70°C	30	45.5	106	3 hr+	3 hr+	3 hr+
Mini Store Fat / Tall - 110 L	Run time (minutes)					
45°C	6	8	16	3 hr+	3 hr+	3 hr+
50°C	13.5	19.5	43	3 hr+	3 hr+	3 hr+
55°C	20.5	30.5	70	3 hr+	3 hr+	3 hr+
60°C	27.5	42	97	3 hr+	3 hr+	3 hr+
65°C	34.5	53	124.5	3 hr+	3 hr+	3 hr+
70°C	41.5	64.5	151.5	3 hr+	3 hr+	3 hr+
Mini Store XL 130 L	Run time (minutes)					
45°C	7.5	10.5	21.5	3 hr+	3 hr+	3 hr+
50°C	16	23.5	53.5	3 hr+	3 hr+	3 hr+
55°C	24.5	37	85.5	3 hr+	3 hr+	3 hr+
60°C	32.5	50.5	117.5	3 hr+	3 hr+	3 hr+
65°C	41	63.5	149.5	3 hr+	3 hr+	3 hr+
70°C	49.5	76.5	3 hr+	3 hr+	3 hr+	3 hr+

Hot water duration at 6 L/m 13°C Inlet Temperature

Assumes 40°C shower, 13°C inlet temperature, 2.5 min heat delivery time		Second shower @ 6 L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 KW	10 kW	12 kW	14 kW
Mini Store XS – 60 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	5	6.5	12.5	3 hr+	3 hr+
55°C	7.5	9	13	28.5	3 hr+	3 hr+
60°C	10	13	19.5	44.5	3 hr+	3 hr+
65°C	13	17	25.5	60.5	3 hr+	3 hr+
70°C	16	21	32	76.5	3 hr+	3 hr+
Mini Store – 80L	Run time (minutes)					
45°C	-	-	-	5	3 hr+	3 hr+
50°C	7	8.5	12	26	3 hr+	3 hr+
55°C	10.5	13.5	20.5	47.5	3 hr+	3 hr+
60°C	14.5	19	29	69	3 hr+	3 hr+
65°C	18.5	24	37.5	90.5	3 hr+	3 hr+
70°C	22	29.5	46	112	3 hr+	3 hr+
Mini Store Fat / Tall – 110L	Run time (minutes)					
45°C	-	5.5	7	13.5	3 hr+	3 hr+
50°C	10	12.5	18.5	43	3 hr+	3 hr+
55°C	15	20	30	72.5	3 hr+	3 hr+
60°C	20.5	27	42	102	3 hr+	3 hr+
65°C	25.5	34.5	53.5	131.5	3 hr+	3 hr+
70°C	31	41.5	65	161	3 hr+	3 hr+
Mini Store XL 130L	Run time (minutes)					
45°C	5.5	7	9.5	19.5	3 hr+	3 hr+
50°C	12	15.5	23	54.5	3 hr+	3 hr+
55°C	18	24	37	89	3 hr+	3 hr+
60°C	24.5	32.5	50.5	124	3 hr+	3 hr+
65°C	30.5	41	64	159	3 hr+	3 hr+
70°C	36.5	49.5	78	3 hr+	3 hr+	3 hr+

Hot water duration at 8 L/m 13°C Inlet Temperature

Assumes 40°C shower, 13°C inlet temperature, 2.5 min heat delivery time		Second shower @ 8 L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
Mini Store XS – 60 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	-	-	-	-
55°C	-	-	5.5	6.5	8.5	20
60°C	6.5	7	8.5	10.5	15.5	39.5
65°C	8	9.5	11	14.5	22.5	59
70°C	10	11.5	14	18.5	29	78.5
Mini Store – 80 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	5	5.5	6.5	9	21
55°C	7	8	9.5	12	18	47
60°C	9.5	11	13.5	17.5	27	73
65°C	12	14	17.5	23	36	99
70°C	14.5	17	21	28.5	45	125
Mini Store Fat / Tall – 110 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	6.5	7	8.5	10.5	16	41
55°C	10	11.5	14	18.5	28.5	76.5
60°C	13.5	15.5	19.5	26	41	112.5
65°C	17	20	24.5	33.5	53.5	148.5
70°C	20	24	30	41	66	3 hr+
Mini Store XL 130 L	Run time (minutes)					
45°C	-	-	-	5	7	14.5
50°C	8	9	11	14	21.5	57
55°C	12	14	17.5	23	36.5	99.5
60°C	16	19	23.5	32	51	142
65°C	20	24	30	41	66	3 hr+
70°C	24.5	29	36.5	50	80.5	3 hr+

Hot water duration at 10 L/m 13°C Inlet Temperature

Assumes 40°C shower, 13°C inlet temperature, 2.5 min heat delivery time		Second shower @10 L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
Mini Store XS – 60 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	-	-	-	-
55°C	-	-	-	-	-	-
60°C	-	-	5	5	6	7.5
65°C	5.5	6	6.5	7.5	9	11.5
70°C	7	7.5	8.5	10	12	16
Mini Store – 80L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	-	-	-	-
55°C	5	5.5	6	6.5	7.5	9.5
60°C	7	7.5	8.5	9.5	11.5	15.5
65°C	9	9.5	11	13	16	21
70°C	10.5	12	13.5	16	20	27
Mini Store Fat / Tall – 110L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	5	5.5	6.5	8
55°C	7	7.5	8.5	10	12	16
60°C	9.5	10.5	12	14.5	17.5	24
65°C	12	13.5	15.5	18.5	23.5	32
70°C	15	16.5	19.5	23	29	39.5
Mini Store XL 130L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	6	6.5	7	8	9.5	12.5
55°C	9	10	11	13	16	21.5
60°C	12	13.5	15.5	18	23	31
65°C	15	17	19.5	23.5	29.5	40.5
70°C	18	20.5	23.5	28.5	36	49.5

Hot water duration at 5 L/m 10°C Inlet Temperature

Assumes 40°C shower, 10°C inlet temperature, 2.5 min heat delivery time		Second shower @ 5L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
Mini Store XS – 60 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	5.5	6.5	9.5	39.5	3 hr+	3 hr+
55°C	8.5	11	18	85	3 hr+	3 hr+
60°C	12	16	26.5	130	3 hr+	3 hr+
65°C	15	20.5	35	175	3 hr+	3 hr+
70°C	18.5	25	43.5	3 hr+	3 hr+	3 hr+
Mini Store – 80L	Run time (minutes)					
45°C	-	-	-	12.5	3 hr+	3 hr+
50°C	8	10	16	72.5	3 hr+	3 hr+
55°C	12	16	27	132.5	3 hr+	3 hr+
60°C	16.5	22.5	38.5	3 hr+	3 hr+	3 hr+
65°C	20.5	28.5	50	3 hr+	3 hr+	3 hr+
70°C	25	35	61	3 hr+	3 hr+	3 hr+
Mini Store Fat / Tall – 110L	Run time (minutes)					
45°C	5	6.5	9.5	37	3 hr+	3 hr+
50°C	11	15	25	120	3 hr+	3 hr+
55°C	17	23.5	40.5	3 hr+	3 hr+	3 hr+
60°C	23	32	56	3 hr+	3 hr+	3 hr+
65°C	29	40.5	71.5	3 hr+	3 hr+	3 hr+
70°C	35	49.5	87	3 hr+	3 hr+	3 hr+
Mini Store XL 130L	Run time (minutes)					
45°C	6.5	8	12.5	53.5	3 hr+	3 hr+
50°C	13.5	18	30.5	151.5	3 hr+	3 hr+
55°C	20.5	28.5	49	3 hr+	3 hr+	3 hr+
60°C	27.5	38.5	67.5	3 hr+	3 hr+	3 hr+
65°C	34.5	48.5	86	3 hr+	3 hr+	3 hr+
70°C	41.5	59	104.5	3 hr+	3 hr+	3 hr+

Hot water duration at 6 L/m 10°C Inlet Temperature

Assumes 40°C shower, 10°C inlet temperature, 2.5 min heat delivery time		Second shower @ 6 L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 KW	10 kW	12 kW	14 kW
Mini Store XS – 60L		Run time (minutes)				
45°C	-	-	-	-	-	-
50°C	-	-	-	6.5	19.5	3 hr+
55°C	6	7.5	9.5	14.5	57	3 hr+
60°C	8.5	10.5	14	22.5	95	3 hr+
65°C	11	13.5	18.5	31	132.5	3 hr+
70°C	13.5	17	23	39	170	3 hr+
Mini Store – 80L		Run time (minutes)				
45°C	-	-	-	-	-	-
50°C	6	7	8.5	13.5	52	3 hr+
55°C	9	11	15	24.5	102	3 hr+
60°C	12.5	15.5	21	35	152.5	3 hr+
65°C	15.5	19.5	27	46	3 hr+	3 hr+
70°C	19	24	33	57	3 hr+	3 hr+
Mini Store Fat / Tall – 110L		Run time (minutes)				
45°C	-	-	5	7	23	3 hr+
50°C	8.5	10.5	13.5	22	92	3 hr+
55°C	13	16	22	37	161	3 hr+
60°C	17.5	22	30.5	52	3 hr+	3 hr+
65°C	22	28	39	67	3 hr+	3 hr+
70°C	26.5	33.5	47	82	3 hr+	3 hr+
Mini Store XL 130L		Run time (minutes)				
45°C	5	5.5	7	10	36	3 hr+
50°C	10	12.5	17	27.5	117.5	3 hr+
55°C	15.5	19.5	26.5	45.5	3 hr+	3 hr+
60°C	21	26.5	36.5	63	3 hr+	3 hr+
65°C	26	33.5	46.5	81	3 hr+	3 hr+
70°C	31.5	40	56.5	98.5	3 hr+	3 hr+

Hot water duration at 8 L/m 10°C Inlet Temperature

Assumes 40°C shower, 10°C inlet temperature, 2.5 min heat delivery time		Second shower @ 8 L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
Mini Store XS – 60 L		Run time (minutes)				
45°C	-	-	-	-	-	-
50°C	-	-	-	-	-	-
55°C	-	-	-	-	5.5	7.5
60°C	5.5	6	6.5	7.5	10	15
65°C	7	8	9	11	14.5	22.5
70°C	8.5	10	11.5	14	18.5	30.5
Mini Store – 80 L		Run time (minutes)				
45°C	-	-	-	-	-	-
50°C	-	-	-	5	6	8
55°C	6	6.5	7.5	9	11.5	18
60°C	8.5	9.5	11	13	17.5	28.5
65°C	10.5	12	14	17.5	23.5	38.5
70°C	12.5	14.5	17	21.5	29.5	48.5
Mini Store Fat / Tall – 110 L		Run time (minutes)				
45°C	-	-	-	-	-	-
50°C	5.5	6	7	8	10	16
55°C	8.5	9.5	11	13.5	18.5	29.5
60°C	11.5	13	15.5	19.5	26.5	43.5
65°C	14.5	17	20	25	34.5	57.5
70°C	17.5	20.5	24.5	31	42.5	71.5
Mini Store XL 130 L		Run time (minutes)				
45°C	-	-	-	-	-	6
50°C	7	7.5	9	10.5	14	22.5
55°C	10.5	12	14	17.5	23.5	39
60°C	14	16	19	24	33	55.5
65°C	17.5	20.5	24.5	31	42.5	72
70°C	21	24.5	29.5	37.5	52.5	88.5

Hot water duration at 10 L/m 10°C Inlet Temperature

Assumes 40°C shower, 10°C inlet temperature, 2.5 min heat delivery time		Second shower @ 10 L/m			Single shower 1–3 users	
					Single shower 3+ users	
					Two showers 2–3 users	
					Two showers 4+ users	
					Three showers 4+ users	
Store Temperature	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
Mini Store XS – 60 L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	-	-	-	-
55°C	-	-	-	-	-	-
60°C	-	-	-	-	-	5
65°C	5	5	5.5	6	7	8
70°C	6	6.5	7	8	9	11
Mini Store – 80L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	-	-	-	-
55°C	-	-	5	5.5	6	6.5
60°C	6	6.5	7	8	9	10.5
65°C	7.5	8.5	9	10.5	12	15
70°C	9.5	10	11.5	13	15	19
Mini Store Fat / Tall – 110L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	-	-	-	-	5	5.5
55°C	6	6.5	7	8	9	11
60°C	8.5	9	10	11.5	13.5	16.5
65°C	10.5	12	13	15	18	22
70°C	13	14.5	16	18.5	22	27.5
Mini Store XL 130L	Run time (minutes)					
45°C	-	-	-	-	-	-
50°C	5	5.5	6	6.5	7.5	8.5
55°C	8	8.5	9.5	10.5	12.5	15
60°C	10.5	11.5	13	15	17.5	21.5
65°C	13	14.5	16.5	19	22.5	28.5
70°C	16	17.5	20	23	27.5	35

Performance Data |

The tables below show aproximately how quickly the store can get back up to temperature when required. Note that we suggest Mini Stores to be left to always on as they are effevctively a heat exchanger, rather than hot water storage and with a hysteresis of around 3°C. Please consult your Heat Geek for help with specification.

Recharge Time: 40 to 55°C (minutes)						
Model	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
60L Mini Store XS	15.7	10.5	7.8	6.3	5.2	4.5
80L Mini Store	20.9	14	10.5	8.4	7	6
110L Mini Store T / F	28.8	19.2	14.4	11.5	9.6	8.2
130L Mini Store XL	34	22.7	17	13.6	11.3	9.7

Mins per °C						
Model	4 kW	6 kW	8 kW	10 kW	12 kW	14 kW
60L Mini Store XS	1.05	0.7	0.52	0.42	0.35	0.3
80L Mini Store	1.39	0.93	0.7	0.56	0.47	0.4
110L Mini Store T / F	1.92	1.28	0.96	0.77	0.64	0.55
130L Mini Store XL	2.27	1.51	1.13	0.91	0.75	0.65



TOP-DOWN TO INCREASE EFFICIENCY

	Max Efficiency (1-2 users)	Max Performance (4-8 users)	Adam's Settings
Hot water offset 0-20°C - How much hotter the heat pump target flow temperature is than the store temperature.	0°C	20°C	Suggested - 0°C to 3°C
Cylinder reheat timer	During shower or bath times only	All the time	Suggested - All time with noise reduction timer set correctly
Store temperature 42°C - 70°C Higher temps only available for higher temp heat pumps or if immersion used.	42°C	70°C	55°C Add 5°C for bath users
Hot water hysteresis 3°C - 15°C Temperature drop before heat pump comes on.	15°C	3°C	3°C - suggested
Heat pump hot water reheat power - Eco - slow heat up of cylinder Blended Normal - Full power output	Eco	Normal	Suggested - Normal Suggested - use-timer reduces noise operation to reduce nuisance noise
Heat pump size	Larger units with higher efficiency settings	Performance settings	7 kW
Expected SCOP (R290HP)	3 - 4.9	1.5 - 2.5	2.5 - 4.1

BOTTOM-UP TO INCREASE PERFORMANCE



What's new in this version? |

New in v1.4

- The stat pocket (and the two spare $\frac{1}{2}$ "F connections) moved from half way up, to low level, to give a quicker reaction time.
- All feedback is still being noted, in preparation for a major spec update in the new year. If you have any suggestions for changes, features, or upgrade options, we'd love to hear them.

New in v1.3

- Coil connections upgraded from pipe stubs to $\frac{3}{4}$ "F BSP.
- Mini Stores are no longer reversible, as having an inaccessible connection underneath (when floor-standing) proved to more-commonly be a hindrance than a help. Variations of the standard connection layout (or any other design aspect) are still available by special request though.
- Prices updated in line with our new material and labour costs.

New in v1.2

- Guidance added to page 5 regarding when an expansion vessel should be added to the system to protect the DHW coil from over-pressurisation during heating.
- Prices updated in line with rising material and labour costs.
- A second page added to the price list which details important buyer responsibilities when ordering.
- Nothing has changed within the Mini Store specifications

To place an order for a Mini Store,
please fill in the [Mini Store order form](#)
on our website, by clicking/ tapping
the link above, or by scanning the QR
code below.

Orders which are placed for standardised, bespoke products, will be taken as approval and confirmation that their specification perfectly describes the product that is required, with an adequate amount of detail and accuracy.

Newark Cylinders do not personally performance test the standardised, bespoke products that they manufacture to third party designs. It is, therefore, each customer's responsibility to research and verify with the designer, that the product being ordered meets the exact requirements of its intended purpose. Newark Cylinders will not take any responsibility for products which don't perform as expected. All products are manufactured to order and, as a result, returns cannot be accepted unless the product is faulty or has not been manufactured to the advertised specification.

NEWARK
CYLINDERS



01636 678437

Brunel Drive
Northern Road Industrial Estate
Newark
Nottinghamshire
NG24 2EG

newarkcylinders.co.uk